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TABLE OF CONTENTS

An Unsolved Problem ..... *Edgar Dale* 355

Achievement in Rural and Consolidated Schools
W. K. Wilson and E. J. Ashbaugh 358

Editorial Comment—Deadlines in Teaching 364

Financial Data for Ohio ..... *T. C. Holy and D. H. Sutton* 366

News of Ohio Research 368

Educational Readings 371

New Tests 376

COLLEGE OF EDUCATION

THE OHIO STATE UNIVERSITY

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Miami University,
Oxford, Ohio.

MR. ROBERT MAYNARD HUTCHINS, president of the University of Chicago, will speak before the Tenth Annual Ohio State Educational Conference to be held at the Ohio State University, April 3, 4, and 5, 1930. Mr. Hutchins, at the age of thirty, is the youngest university president in the United States. He was formerly Dean of the Law School at Yale University from which he graduated in 1925. He also attended Oberlin College.

Mr. E. H. Sothern, the famous interpreter of Shakespeare, will speak before the Friday evening general session, also. Mr. Sothern will give a series of lectures and interpretations of Shakespeare.

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Educational Research Bulletin

An Unsolved Problem

EDGAR DALE[1]

THE LAYMAN'S ignorance of elementary economic principles and the failure of society to enlighten him in this field have frequently been commented on by critical observers who have had intimate dealings with the public in financial affairs. The following statements gleaned from various sources illustrate this attitude: "We are a nation of economic illiterates," "Economics has been pitched above the average mind," "Instruction in simple economic principles and project practice in thrift are vitally needed in the schools because the prevalent extravagance and waste in American life threaten to undermine the economic independence and civic virtue of American citizenship," "Instead of abstract arithmetic, we should teach our boys and girls the value of a dollar, how it grows, what the principles of investment are."

Such statements constitute a severe indictment of schools, parents, and financial institutions generally. All are charged with the responsibility of developing economic intelligence in those with whom they come in contact. Why do many critical observers believe that lay financial training could be greatly improved?

It is the writer's belief that our efforts to develop wide-spread economic intelligence have been hindered because we have not had clear-cut objectives toward which to aim. We have not only failed to make factual studies to determine what the minimal essentials of economic intelligence are, but we do not know how well the various elements are already known.

These two major deficiencies in our program of economic training led the writer to carry on an extended study on one phase of this problem at the University of Chicago.[2] The investigation was divided into three parts: First, what are all the common business terms in the English language? Second, how often do these terms occur in investment articles and books which financial experts have written for lay readers? And third, how well do children in communities of widely varying social composition understand those business words which occur frequently in these articles?

The master list of business terms was secured by first selecting all of the business terms in an abridged dictionary containing forty-five thousand words;

[1] Bureau of Educational Research, Ohio State University.

[2] "Factual Basis for the Reorganization of the Curriculum in Arithmetic with Special Reference to Children's Understanding of Business Terms." Doctor's Dissertation on file at the University of Chicago Library. 1929.

by consulting the indexes of books on business, economics, and finance; and by supplementing this list with common business words found in encyclopedias of business and articles dealing with the investment of money.

To secure a satisfactory answer to the second question formulated above, three hundred ten thousand running words of investment literature were carefully checked and the frequency of occurrence of each business word therein noted. This was done by tallying each occurrence on a check list of the business words. Two-thirds of the material analyzed related to investment in stocks and bonds and one-third to banking, insurance, and real estate. The following fifty business terms are those which occurred most frequently in the material analyzed:

bond	profit	purchase
investment	capital	dividend
company	earnings	borrow
security	debt	speculate
stock	bank	sell
business	mortgage	cost
issue	income	share
value	market	operate, operation
investor	money	
pay, paid	payment	safe, safety
per cent	corporation	invest
interest	premium	obligation
amount	finance	principal
insurance	property	funds
loan	rate	credit, creditor
price	buy, buyer	return
policy	tax	own

Placed in the order of frequency of occurrence, *bond* received the highest number of tallies in this group of fifty words and *own* the lowest. Approximately seven hundred fifty different business words were used in all of the articles. These words with their frequency of occurrence are presented in the writer's dissertation.

Pupils cannot intelligently read simple statements dealing with the investment or handling of money, which occur frequently in their arithmetic problems, in commercial law, commercial arithmetic, commercial geography, and economics, unless they have a clear-cut understanding of these terms.

A simple, but adequate, test was devised to determine children's understanding of the three hundred commonest terms. Random samplings of the pupils in Grades VII to XII were tested in two communities of widely varying social composition, one a wealthy residential suburb, the other an industrial city. The scores on a few of the terms based on the percentage of the pupils who knew the terms are given in Table I.

The evidence from all of the three hundred business words tested upon indicated that the average eighth-grade pupil knew about one-half of the terms and the average twelfth-grade pupil knew about three-fourths of the terms. Since factual evidence concerning the most common business words in investment literature has not hitherto been available, it would appear that the availability of such evidence would make a more direct teaching attack possible. Textbooks on arithmetic, economics, commercial law, economic civics, and similar subjects should make careful provision for the teaching of the common difficult business terms and should exclude difficult investment terms rarely used in investment literature. Further, words well known to the pupils can be given scant attention and increased emphasis placed

on those terms which are difficult for children to understand. The word *tax*, for example, is well known even in the sixth grade, yet eighth-grade textbooks in arithmetic usually explain it carefully. The word *diversification* appears frequently in investment literature but rarely in arithmetic textbooks. The word *brokerage* is frequently used in arithmetic textbooks, but it appears rarely in investment literature, *commission* is the more modern term.

From this study one finds that those interested in the financial training of youth and adults have not had a carefully formulated factual basis for such training. One approach to this problem is to determine those business terms which are commonly used in investment articles and books which have been written by experts for the lay reader.

Some of the results of this type of analysis are reported in this article. In the two cities where the tests were given about one-half of the three hundred most common terms were known by the typical eighth-grade pupil and three-fourths of the terms were known by the typical twelfth-grade pupil.

Two important criteria for the selection of business words to be used in textbooks are: first, the relative frequency of the occurrence of these words in investment materials written for the layman by the expert, and second, the pupil's difficulty in understanding the term.

TABLE I

PERCENTAGE OF CHILDREN WHO KNEW THE WORDS LISTED

	Grade VII	Grade VIII	Grade IX	Grade X	Grade XI	Grade XII
(1)	(2)	(3)	(4)	(5)	(6)	(7)
	INDUSTRIAL CITY					
bond	22	34	56	42	76	42
security	50	68	60	80	86	86
stock	28	65	40	56	74	58
interest	93	91	84	82	94	95
policy	61	52	82	72	90	87
bank	90	98	.....	.....	.....	.....
mortgage	32	31	50	54	64	67
capital	38	49	74	68	86	84
dividend	16	52	46	70	72	62
principal	68	70	78	80	94	90
credit	26	47	66	54	74	76
	RESIDENTIAL SUBURB					
bond	20	60	64	70	76	80
security	32	66	70	76	84	94
stock	24	44	42	42	44	70
interest	48	78	88	86	94	98
policy	44	54	70	74	88	88
bank	98	94	.....	.....	.....	.....
mortgage	26	50	40	52	50	60
capital	36	82	82	88	94	90
dividend	16	76	62	72	78	86
principal	6	54	68	66	84	86
credit	54	68	84	88	92	98

Achievement in Rural and Consolidated Schools

W. K. WILSON
AND
E. J. ASHBAUGH[1]

THIS study was made for the purpose of comparing the reading and arithmetic ability of pupils in consolidated and in one-room rural schools. The Illinois Examination was used for obtaining intelligence scores, reading scores, and arithmetic scores; these were obtained from all the pupils in Grades III to VIII inclusive in four consolidated and fifty one-room rural schools in nine counties of Ohio. The testing was done in the spring of 1929; the tests were given by the teachers and scored in the office of the Bureau of Educational Research.

Comparisons of the achievement in arithmetic and reading were made between the pupils of corresponding grades in the two types of schools. Comparisons were also arranged between the scores of the boys enrolled in each type of school and those of the girls. All comparisons were made by separate grades as was the case with the mixed groups—boys and girls.

Further attempt to control extraneous factors was made by comparing only those pupils of one type of school with pupils of the other type of school who had the same intelligence scores. In other words, a pupil from a rural school was paired with a pupil of equal intelligence quotient from the corresponding grade in a consolidated school; all pupils who could not thus be paired were eliminated from the study. This pairing was done first with boys and girls separate, then with the boys and girls grouped together. In order to obtain as many pairs as possible, in some cases a pupil of a given intelligence score was paired with one of a score one point higher or lower, since this slight difference would not appreciably affect the results of the study. These variations were so balanced that the average intelligence of each paired group was practically equal.

Since there was a mixed group for each of the six grades as well as one of boys and another of girls, there were 18 groups for which comparisons of the average arithmetic scores were available. There was an equal number for reading. All told there were 337 pupils involved from each type of school in the comparisons of boys' and of girls' scores, and 389 when the scores of the boys and girls were combined, or a total of 674 pupils in the first case and 778 in the latter case. The increased number of pupils involved when the sexes were combined was due to the fact that putting the boys' and girls' intelligence scores together made it possible to find a larger number of pairs.

Superiority of achievement was determined by comparing the mean of one group with that of its corresponding group; the difference between these means was used as the criterion of judgment. This difference was

[1] Mr. Wilson is a research assistant in the Bureau of Educational Research; Mr. Ashbaugh has recently left the Bureau.

further checked for reliability by the computation of the critical ratio, which will be discussed later.

In Table I the mean scores in reading for the boys paired with boys and girls paired with girls are given for Grades III, IV, V, VI, VII, and VIII. The first section of the table should be read as follows: The 23 third-grade boys in the consolidated school had a mean score of 5.7 on the reading subtest of the Illinois Examination, while the boys paired with them from the rural schools had a mean of 4.0. The difference of the two means which was 1.7 with a critical ratio .9 favored the boys of the consolidated school. Among the girls in Grade III there were eighteen who could be paired on the basis of equal intelligence. The means for the consolidated and rural schools were 7.4 and 5.5, respectively, with a difference in favor of the consolidated type of 1.9 and a critical ratio of .81.

The critical ratios in these tables were computed indirectly from the formula

$$CR = \frac{D}{3\,\sigma_{diff.}}$$

and may be interpreted in the first case cited as meaning, according to Garrett[2] that the difference of 1.7 with a critical ratio of .9 is about 90 percent of what it should be to insure that the difference will always be greater than zero and in favor of the consolidated schools if similar groups of boys were tested under similar circumstances.

Likewise, the difference of 1.9 with a critical ratio of .81 means that this difference is about 81 percent of

TABLE I

COMPARISON OF READING SCORES OF BOYS AND GIRLS FROM RURAL AND CONSOLIDATED SCHOOLS

Grade and School Type	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Boys				Girls			
Grade III:								
Consolidated	23	5.7	1.7	.90	18	7.4	1.9	.81
Rural	23	4.0	.....	.....	18	5.5	.....	.....
Grade IV:								
Consolidated	28	6.5	.8	.39	34	8.4	.8	.40
Rural	28	5.7	.....	.....	34	7.6	.....	.....
Grade V:								
Consolidated	21	8.9	.....	.....	28	11.3	1.8	.63
Rural	21	9.2	.3	.10	28	9.5	.....	.....
Grade VI:								
Consolidated	28	11.2	.8	.35	39	10.5	.4	.20
Rural	28	10.4	.....	.....	39	10.2	.....	.....
Grade VII:								
Consolidated	28	12.7	.9	.35	34	12.7	1.4	.66
Rural	28	11.8	.....	.....	34	11.3	.....	.....
Grade VIII:								
Consolidated	23	13.8	.9	.35	33	13.8	.3	.14
Rural	23	12.9	.....	.....	33	13.5	.....	.....

[a] The mean and the difference of the means are smoothed in each instance. The critical ratio is the figure obtained in the computation in which the actual mean and difference of the means were used.

[2] Garrett, H. E. *Statistics in Psychology and Education.* New York: Longmans, Green and Company, 1926. pp. 128-33.

what it should be to guarantee a difference greater than zero in favor of girls from consolidated schools if all conditions were similar. The critical ratio may also be interpreted in terms of chance. There are better than 99 chances to one that, under similar circumstances, the reading scores of third-grade boys from consolidated schools on the Illinois examination would extries for Grade VIII given in Table II. Here we find 23 boys from each type of school paired on the basis of equal intelligence quotients, with a mean achievement score in arithmetic for the consolidated type school 11.7 points higher than that of the rural type, and a critical ratio of .52, indicating that this difference is approximately 52 percent of what it should be always to

TABLE II

COMPARISON OF ARITHMETIC SCORES OF BOYS AND GIRLS FROM RURAL AND CONSOLIDATED SCHOOLS

Grade and School Type	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Boys				Girls			
Grade III								
Consolidated	23	25.3	5.6	.49	18	24.2	5.3	.49
Rural	23	19.7	.....	.....	18	18.9	.....	.....
Grade IV								
Consolidated	28	41.3	3.1	.27	34	47.9	5.9	.41
Rural	28	38.1	.....	.....	34	42.0	.....	.....
Grade V								
Consolidated	21	58.5	10.0	.83	28	59.1	.5	.29
Rural	21	48.5	.....	.....	28	58.7	.....	.....
Grade VI								
Consolidated	28	58.1	4.1	.28	39	71.1	15.9	1.01
Rural	28	54.0	.....	.....	39	55.2	.....	.....
Grade VII								
Consolidated	28	62.0	2.9	.18	34	76.5	8.4	.42
Rural	28	59.2	.....	.....	34	68.1	.....	.....
Grade VIII								
Consolidated	23	77.1	11.7	.52	33	75.2	.....	.....
Rural	23	65.4	.....	.....	33	75.7	.5	.03

[a] The mean and the difference of the means are smoothed in each instance. The critical ratio is the figure obtained in the computation in which the actual mean and difference of the means were used.

cel those of third-grade boys from rural schools.[3] The corresponding chances for the girls from consolidated schools are just about 99 to one.

This statistical interpretation can be further illustrated by reading the en-

[3] See Table XIV, Garrett, *op. cit.*, p. 134. In using Table XIV in this manner the critical ratios must be multiplied by 3, since the items in the column "Chances in 100" were computed from the formula just given but the 3 in the denominator shown in the formula for critical ratios was omitted.

insure a difference in favor of this group. There were 33 pairs of girls in this grade; the mean achievement score favored the rural-school pupils by the slight amount of .5 points, with a critical ratio of .03, which means that this difference in favor of the rural school is only three percent of what it should be always to insure superiority of arithmetical ability in this type of school for similar groups and under similar conditions. Stated in

terms of chances, there are about 53 chances out of 100, or practically one to one, that a difference in favor of the rural school would always be found under similar conditions.

In Table I we find, in the case of the boys, five of the differences of the means favoring the consolidated schools, with corresponding critical ratios varying from .35 in Grades VI, VII, and VIII to .90 in Grade III. For the girls all six of the differences favor the consolidated schools, with critical ratios varying from .14 in Grade VIII to .81 in Grade III. The average critical ratio is .37 for the boys and .47 for the girls (see Column 3, Table IV), which indicates approximately the same superiority in reading for the girls of the consolidated schools as for the boys, with a possible slight advantage in favor of the girls.

In Table II we find all the differences of means favoring the consolidated schools in case of the boys, while five of the six favor the same school in the case of the girls. The one difference in Grade VIII is so slight as to be practically negligible. The average critical ratio for both boys and girls is .43 (see Column 3, Table IV). This indicates again that, while there is some sign of superiority in arithmetic in the consolidated school, there is no difference in regard to sex.

TABLE III

COMPARISON OF THE SCORES IN ARITHMETIC AND READING FOR THE MIXED GROUPS

Grade and School Type	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]	Number of Pupils	Mean	Difference of Means	Critical Ratios[a]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Boys				Girls			
Grade III:								
Consolidated	44	6.1	1.5	.98	44	23.9	4.1	.56
Rural	44	4.6	.....	.....	44	19.8	.....	.....
Grade IV:								
Consolidated	71	7.8	.8	.53	71	45.3	6.0	.73
Rural	71	7.0	.....	.....	71	39.3	.....	.....
Grade V:								
Consolidated	60	10.0	1.0	.50	60	57.8	4.3	.48
Rural	60	9.0	.....	.....	60	52.5	.....	.....
Grade VI:								
Consolidated	76	11.0	.4	.33	76	64.0	9.3	.83
Rural	76	10.6	.....	.....	76	54.7	.....	.....
Grade VII:								
Consolidated	70	12.5	1.2	.81	70	67.0	3.1	.26
Rural	70	11.3	.....	.....	70	63.9	.....	.....
Grade VIII:								
Consolidated	68	13.7	.4	.31	68	73.9	.....	.....
Rural	68	13.3	.....	.....	68	75.3	1.4	.11

[a] The mean and the difference of the means are smoothed in each instance. The critical ratio is the figure obtained in the computation in which the actual mean and difference of the means were used.

Table III, which gives the corresponding data for boys and girls grouped together—the so-called "mixed groups"—further substantiates the indicated superiority of the consolidated school in both reading and arithmetic. All of the difference of means in reading favor the consolidated schools, with an average critical ratio of .58, while

five of the differences in arithmetic favor the consolidated school, with an average critical ratio of .46 (see Column 3, Table IV).

Table IV gives the results of averaging the difference of means and critical ratios for the six grades for each of the three groups—boys, girls, and mixed—for each subject. The figures in the last column indicate in how many grades of each group the difference of means favored the consolidated school. The table should be read, using the top line for illustration, as follows: In reading, comparison of achievement between the boys of the consolidated schools and those of the rural schools showed that the average score of the six grades was .79 points in favor of the consolidated schools, with an average critical ratio of .37. This latter figure indicated that the average difference of means for the six grades was 37 percent of what it should always be to insure a positive superiority in favor of the consolidated school. In this group five of the six grades showed a difference of means in favor of the consolidated type school.

Summing up, then, we find in the thirty-six groups, which range in size from 18 to 76 pairs, that thirty-three or all but three of them show mean achievement scores favoring the consolidated school. The differences are slight, it is admitted. The average critical ratios given in Column 3 in Table IV indicate a range of from 37 percent to 58 percent assurance that there would always be a superiority in that direction. But our final conclusion—that the Illinois Examination indicates a superiority of achievement in reading and arithmetic in the consolidated school as against the one-room school—is based not on the size of the difference in mean achievement scores, but upon the remarkable persistency with which these differences favor the consolidated school. The conclusion

TABLE IV

AVERAGES OF DIFFERENCES FOR THE SIX GRADES (III TO VIII) IN READING AND ARITHMETIC FOR BOYS, GIRLS, AND MIXED GROUPS

Group	Average of Differences Means	Type Favored[a]	Average of Critical Ratios	Number of Differences Favoring Consolidated Schools
(1)	(2)	(3)	(4)	(5)
	Reading			
Boys	.79	C	.37	5
Girls	1.08	C	.47	6
Mixed	.89	C	.58	6
	Arithmetic			
Boys	6.25	C	.43	6
Girls	5.91	C	.43	5
Mixed	4.23	C	.46	5

[a] The letter *C* stands for consolidated schools.

is reached on a principle well recognized in statistical procedure, the principle that in a large number of measurements, a persistent difference in a given direction, even though the differences are small, indicates a true difference in that direction.

A School-Accounting System

HARVEY S. GANDERS[1]

The installation of a good system of pupils' and financial records and reports is a much needed innovation in a majority of school systems. The fact that such a fundamental improvement has been so widely neglected is evidence of the tardy acceptance of the scientific movement by school administrators. The recent state-wide revision of school-accounting systems in a dozen progressive states; the publication of books on school accounting by Strayer and Engelhardt, Mort, Moehlman, McAllister and Otis, Fowlkes, Case, and others; the efforts on the part of the Department of Superintendents of the N. E. A., and the associated chief executives of State Educational Departments, to secure wider adoption of uniform records and reports; and the sale of "systems" of school accounts by non-educational publishers all attest to an unprecedented interest in this important field. *The Uniform School Accounting System*[2] is a worthy contribution and will further the advance.

Those who have read Dr. Heck's painstaking, *Study of Child Accounting Records* will have confidence in the scientific character of *The Uniform School Accounting System* which he and Dr. Reeder have prepared. The information called for on these 28 forms has been determined, by means of scientific techniques and by the judgment of hundreds of practical school men, to be those facts which are both needed and usable.

These 28 forms are indeed a minimum number. In a study of the pupil-personnel records in schools of smaller cities—5,000 to 15,000 inhabitants—the writer found that the median number of forms actually used was 36.

Any system of pupil accounts depends for its ultimate acceptance upon the facility with which teachers fill in the necessary data. The ease with which the Heck and Reeder forms may be used will strongly recommend them to superintendents of schools in large as well as small cities. In the opinion of the writer, this system is the simplest yet devised. In many respects it is the best obtainable.

† † †

The Collinwood High School in Cleveland has recently published a new pamphlet on its "Curriculum Organization and Program of Studies." This high school includes Grades VII to XII.

The curriculum as outlined contains provisions for ten different high-school majors, a major to be defined as a subject continued for at least three, and preferably four years. The ten majors are art, commercial courses, English, home economics, a foreign language (Latin, French, or German), mathematics, music, natural science, social studies, and shop and mechanical drawing. Suggested curricula for every major are included as well as curricula to satisfy college requirements.

[1] University of Cincinnati.

[2] Heck, Arch O., and Reeder, Ward G. *The Uniform School Accounting System.* Bloomington, Illinois: Public School Publishing Company, 1929. 37 pp.

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Deadlines in Teaching

IN a recent magazine article entitled "Laid Off at Forty," the author points out the existence of low age deadlines in industry. Unemployed, competent executives past forty years of age, regardless of why they are out of employment, find extreme difficulty in securing positions according to this author's opinion, "because younger men are wanted." In a recent discussion among men engaged in teacher-placement duties, the question arose regarding possible deadlines in teaching. The general testimony was that age is often a bar when the unemployed teacher seeks a position in the public-school or collegiate fields.

Until recently, "too old" in teaching meant approaching senility, and teachers even past middle age could give up their positions in the spring with a practical certainty of employment when schools opened in September. "Too old" is now gradually coming to mean "past middle age" as the term is used by school officials seeking additions to their staffs. Well-experienced teachers, attempting to shift from administration to collegiate or public-school teaching, are encountering increasingly insurmountable obstacles to such transfers, not the least of which is a record of widely scattered experience of more than fifteen years. The lines of demarcation between the many fields in education are becoming more evident, and the specific demands in each field are increasingly detailed. Obstacles to changing one's type of position include age, type of experience, and training.

The Philadelphia city schools engage as a new teacher no man over fifty and no woman over forty-five years of age. Other cities have similar practices. One cogent reason for such rulings is the financial gain in having a large number of relatively inexperienced teachers on the pay roll, since the salary budget increases as larger percentages of teachers reach the "top" of the schedule.

Colleges and universities who formerly would take successful administrative experience in lieu of advanced degrees are searching persistently for teachers holding Doctor's degrees when they make additions to their departments of education. As the number of teachers with the doctorate increases and as the demands of collegiate accrediting agencies push up the educational requirements of college faculties, shifts to collegiate teaching by men with wide administrative experience but little graduate training will probably diminish to an almost imperceptible number.

The ladder of advancement for many in teaching is up the rungs of

high-school teaching, principalship, and superintendency. Some have added the additional rung of collegiate teaching. Limited experience in each step normally is an aid in attaining the next rung of this ladder. But for the most part this is a one-way ladder on which those who slip from their attained rungs often unsuccessfully try to gain footing on the rungs which supported their upward progress.

A college teacher who had some years previously left the public-school field thought he could easily "step down" into high-school teaching or a principalship since he was unable to secure a collegiate post in his preferred subject. He did not realize that he was competing with teachers whose first interests and last experiences were in the high school. Also, he was unable to understand, that while he was perfectly willing to "step down" into high-school teaching as a last resort, the school officials were quite indifferent to the services of a "stepper down" who had years ago left the high school, regardless of his reasons for "stepping."

Obviously one is ordinarily best fitted for a specified type of work if he is trained for it and has had a wide experience in it. Only in absence of trained competitors can he "make the grade" in shifting satisfactorily from one type of position to another. Salary advantages which induce him to choose one field of teaching in preference to another will increase rather than diminish as he delays changing; and the longer he stays the less will be his chances of going satisfactorily to another field. As teachers who specialize within narrow educational limits become more plentiful, school officials will increasingly restrict employment to those who have chosen one phase of education, have prepared thoroughly for it, and have engaged fully in it. Ten years ago when teachers were as scarce as the proverbial "hen's teeth," shifts in and out of teaching and between various fields in the profession were made with relative ease. Now the "Jack of all trades" who is seeking a position is facing a seriously difficult problem of re-employment. The next ten years will undoubtedly see such problems becoming larger.

Appointment offices and teachers' agencies are advising teachers not to resign from positions on the strength of supposed opportunities elsewhere until they have carefully canvassed the opportunities for re-employment, especially if they have reached middle age. They also advise the far-seeing individual to chart his professional ambitions carefully, in order to avoid attempted shifts that may be impossible of execution and blind alleys with insurmountable walls.

There will always be exceptional individuals of all ages who seem to be able to shift in and out of teaching and change from one field to another with impunity. They usually have ability and personal salesmanship superior to the competitors whom they meet. These people will likely be more and more the exceptions as their ages and experiences increase, as each line of teaching becomes rapidly more specialized, as competition for positions becomes keener, and as age deadlines for unemployed teachers go down.

E. W. ANDERSON

Financial Data for Ohio

T. C. HOLY
AND
D. H. SUTTON [1]

Since 1825, it has been recognized clearly that the taxable wealth of the state must be used as a means of educating the youth of school age within the state, and that it is only upon this basis that any community can care for schools already in use or formulate a policy of future growth. The state, for a number of years, has been demanding better schooling for its children. Better and more adequate school buildings, better teaching methods, a longer school term, and equalized educational opportunities have been strenuously insisted upon in Ohio, and as time passes the interests of the children are being more jealously safeguarded.

In considering the financial programs to be submitted to the school districts within Ohio we have considered the underlying factors for determining the support of education in any district to be: the total amount of taxable wealth; the amount of tax levied for school purposes; the amount of tax levied for all purposes, including schools and local or municipal government; the total outstanding bonded indebtedness for schools; and the total number of pupils enrolled in the school district.

Since school officials throughout the state, as well as public-spirited citizens, are constantly demanding information concerning special levies and bond issues for comparisons between their own school districts and other school districts throughout the state, the questionnaire sent out included the following items in addition to those already listed: the amount and year of expiration of any special levies now in force; the amount and duration of any special levies to be submitted at the November election; and the amount and purpose of any school bond issue to be submitted at that time.

A questionnaire including all these items was recently sent to the superintendents of the ninety-three cities and fifty-one exempted villages in Ohio. Replies were received from eighty-one cities and forty-three exempted villages. The results of these questionnaires were tabulated and returned to the superintendents for their use. A summary of the data for Ohio cities follow:

Valuation per pupil enrolled (less tuition pupils)	
Average	$11,172.18
High	47,301.48
Low	3,839.73
Tax rate for school purposes (including 2.65 mills)—	
Average	9.87 mills
High	13.77 mills
Low	4.91 mills
Total tax rate for all purposes—	
Average	22.35 mills
High	30.08 mills
Low	15.00 mills
Bonded debt per pupil enrolled (less tuition pupils)—	
Average	$202.25
High	905.71
Low	9.34
Total school bonded debt	$120,846,678

[1] Mr. Holy is in charge of the division of school surveys of the Bureau of Educational Research, Ohio State University. Mr. Sutton is a research assistant in this division.

The following is a summary of financial data for Ohio exempted villages:

Valuation per pupil enrolled (less tuition pupils)	
Average	$10,821.85
High	36,741.64
Low	3,190.84
Tax rate for school purposes (including 2.65 mill levy)—	
Average	10.12 mills
High	15.15 mills
Low	6.93 mills
Total tax rate for all purposes—	
Average	22.49 mills
High	27.80 mills
Low	17.75 mills
Bonded debt per pupil enrolled (less tuition pupils)—	
Average	$ 239.93
High	1259.46
Low	14.40
Total school bonded debt	$15,692,961

The questionnaires submitted to the county superintendents of schools differed somewhat from those submitted to the city and exempted-village superintendents in that they were only to be filled out for those districts submitting financial proposals, and the number of pupils enumerated was requested instead of the number of pupils enrolled. Replies were received from eighty-one of the eighty-eight counties. The following is a summary of the results which were also tabulated and returned to the county superintendent:

Valuation per pupil enumerated[a]—	
Average	$ 7,003.53
High	56,224.90
Low	1,219.51
Tax rate for school purposes[b] (including 2.65 mills)—	
Average	10.41 mills
High	20.35 mills
Low	2.65 mills
Total for all purposes[b]—	
Average	19.36 mills
High	30.60 mills
Low	5.80 mills

[a]On basis of districts submitting school enumeration and total valuation.
[b]On basis of districts submitting tax rates.

The number of levies submitted for first time was 45, although 5 districts in their questionnaires gave incomplete data.

As a means of showing the variations in financial status, attention is called to the items of per-pupil valuation. The foregoing summaries show an inequality in wealth per pupil enrolled which ranges from $3,839.73 at Wellston to $47,301.48 at St. Bernard for the cities and in exempted villages from $3,190.84 at Middleport to $36,741.64 at Shaker Heights. The high per-pupil valuation exists mainly in the community that has grown rapidly while the low per-pupil valuation is to be found, for the most part, in the city or exempted village that has reached the zenith of its growth.

It is usually considered that the ability to pay for schools is measured in terms of wealth. Other things being equal, the more wealth found in the district, the greater is the ability of that school district to support schools. However, the amount of school bonded indebtedness must be considered in determining whether or not a community is giving the best financial support to its schools. The exempted-village school district in Ohio having the greatest per-pupil valuation also has the greatest school bonded indebtedness per pupil (Shaker Heights), and the exempted-village school district (Middleport) having the least per-pupil valuation ranks seventh, of forty-three reporting, from the lowest per-pupil bonded debt.

Within the past decade considerable emphasis has been placed upon the necessity of providing adequate school buildings and equipment. Since most

school districts are unable to finance expenditures for capital outlay from current funds, the number of bond issues submitted each year have increased rapidly. The increased cost of education, largely due to the decreased purchasing power of the dollar and the expansion of curricular offerings, is a well-known fact which requires no further repetition at this time.

Since the state has a fifteen-mill tax limitation, it is necessary to provide these additional funds through special levies submitted to the voters, a fact which accounts for the large number of such levies. Table I presents a summary of all financial proposals in the way of bond issues and special levies to be submitted to the voting public at the November 5 election.

Following the election an inquiry will be sent to each district which voted on bond issues and special tax levies at the election, to determine what disposition has been made of the proposals. It is believed that if this is continued over a period of years, the summary will serve as an index of the support that is being accorded to public education throughout the state.

TABLE I

SUMMARY OF THE FINANCIAL PROPOSALS BEING SUBMITTED AT THE NOVEMBER ELECTION

DISTRICT	BOND ISSUES BEING SUBMITTED		SPECIAL LEVIES		
	Number	Amount	Number Submitted	Number of Renewals	Average Millage
(1)	(2)	(3)	(4)	(5)	(6)
City	12	$ 5,995,000	44	41	2.72
Exempted villages	9	1,723,000	14	13	3.10
County school districts	135	8,533,475	363	313	2.90
Total	156	$16,251,475	421	367	.....

News of Ohio Research

DEMAND AND SUPPLY OF TEACHERS—

During the year 1928-29 a study was made by the Educational Council of the Ohio Education Association of the relation between the demand and supply of elementary teachers in Ohio, with special reference to the question of raising the minimum statutory training requirements for admission to the elementary teaching profession in this state. The present minimum statutory requirement is one year of training beyond the high school, with fifteen semester hours in education, provision being made for the issuing of local certificates both with and without examination of the teachers applying for them.

Data on the supply and demand of elementary teachers were secured by questionnaires from county, city, and exempted-village superintendents of schools, from elementary teachers newly appointed in 1928-29, from the approved teacher-training institutions of Ohio, and from the official records of the State Teachers Retirement System.

For the purposes of this study a regular elementary teacher is defined as one teaching in the kindergarten or in any of the elementary grades from one to six or from one to eight. An elementary teacher "new to Ohio" in 1928-29 is one who had not been teaching in the state during the last six months of the preceding school year. A "trained" elementary teacher is one who has graduated from at least a two-year course of professional elementary training beyond the high school in an institution approved for teacher training by the State Department of Education.

The demand for teachers was determined by totaling the estimated number of positions filled by teachers who were "new to Ohio" in 1928-29 and the estimated number of positions filled by "trained" graduates of Ohio teacher-training institutions (1927-28) who were teaching but were not "new to Ohio" in 1928-29. There were 2,737 teachers of the first classification and 1,137 teachers of the second, representing a total demand for elementary teachers of 3,874.

The supply of "trained" teachers was determined by totaling the estimated number of graduates of Ohio teacher-training institutions in 1927-28 who were teaching in Ohio in 1928-29, the estimated number of "trained" teachers "new to Ohio" in 1928-29 who graduated from Ohio teacher-training institutions prior to the year 1927-28, and the estimated number of "trained" teachers "new to Ohio" in 1928-29 who graduated from institutions outside of Ohio. There were 1,832 teachers of the first classification, 217 of the second, and 57 of the third, a total supply of "trained" teachers of 2,106. Comparing the data on supply and demand, it is clear that the shortage of "trained" teachers was 1,768. In other words, the supply amounted to only a little more than 50 percent of the total need for trained teachers.

Tables presented in the complete report of this study show that on the average the elementary teachers who in 1928-29 were newly appointed in county districts were not receiving a really professional wage. Since there is good reason for believing that there are many more untrained teachers in Ohio than are needed, even in view of the present large shortage of trained ones, it is reasonable to conclude that this oversupply is one reason why salaries are so low.

As a result of this investigation, the Educational Council recommends that the 1931 legislature enact a law requiring that, after a specified date, every elementary teacher beginning service in Ohio must have at least two years of specific professional preparation beyond the high school and that all local agencies for certification of teachers be abolished. It is also recommended that continuous studies of supply and demand of elementary teachers be carried on, probably by the State Department of Education. It is recommended, further, that if in 1931 the results of the continued studies show that there is

still a shortage of trained teachers, the legislature might well establish $1,000 as the minimum salary to be paid to elementary teachers. These recommendations will be submitted to the Representative Assembly of the Ohio Education Association in December, 1929, when it will be decided whether they shall become a part of the Association's official program.

THE FIRST DAY OF SCHOOL—

In a Master's thesis submitted at Ohio State University, W. L. Sprouse made a study of "the administration of the first day of school in Ohio." Mr. Sprouse is now principal of the senior high school, at Logansport, Indiana.

The data were secured from 229 high schools by means of a questionnaire. In only 20 percent of the schools studied was the entire first-day session devoted to registration alone. One hundred and seventy-six schools put the schedule of recitations into operation the first day, with class periods ranging from 5 to 65 minutes. Mr. Sprouse has made a summary of his findings which he will be glad to send to anyone interested in them.

HIGH-SCHOOL SCHOLARSHIP—

The Ohio State School Scholarship Contest sponsored by the State Department of Education this year is to be in charge of E. R. Wood, former director of the Kansas Scholarship Contest. W. J. Osburn and H. H. Davis are also aiding in the organization and administration of the tests.

Mr. Wood has initiated an "Every Pupil Test" which may be given to every pupil in each Ohio high school. Tests have been arranged to cover algebra, chemistry, American history, Latin, general science, physics, plane geometry, and English. They are to be given at the local high schools on December 10 and on April 15. In the second phase of the contest, teams of pupils will compete against each other for team honors in scholarship as well as for individual honors.

The Ohio State School Scholarship Contest is intended to establish standards for scholarship throughout the State as well as to encourage individual effort. Reports will be sent to county superintendents and teachers so that each may know the comparative rating of his county or school.

CO-ORDINATED RESEARCH ACTIVITIES

A committee including representatives of the State Department of Education, the Ohio Institute, the Ohio Education Association, and the Bureau of Educational Research are collecting information on educational measures which are likely to be brought before the 1931 legislature. Dr. R. L. Morton heads this committee.

This work is a part of the co-ordinated activities of the four Columbus agencies interested in educational research activities which were initiated last year. It is intended not to make recommendations for legislature but to collect objective data regarding the measures which are likely to come before the legislature for action.

E. W. Anderson, of the Bureau of Educational Research, and R. R. Foster of the Ohio Education Association will continue to gather further information on the demand and supply both of elementary and high-school teachers in Ohio. This information may be

used as a possible guide by the legislature in providing for the training and certification of teachers and in determining needs of teacher-training institutions.

R. E. Miles, of the Ohio Institute, is studying the advisability of the county being considered a unit for school-taxation and school-administration purposes. T. C. Holy, Bureau of Educational Research, is studying the needs of the junior college. H. H. Davis, of the State Department, is studying the different types of atypical children. Mr. Foster has also been studying the constitutional tax-limitation amendment, a study of which appeared in this Bulletin, October 23.

Educational Readings

COURTIS, S. A. "Identifying and Eliminating the Unfit in Teacher's Colleges," *Nation's Schools*, 4:21-27, September, 1929.

Those persons in charge of teacher-training institutions who realize that not all students are fitted to become teachers will welcome some scientific methods of determining those who are fit and those who are unfit. The criteria by which to judge fitness as presented in this article include physical perfection, general culture, intelligence, and academic success, while two criteria of unfitness are emotional instability and moral deficiency. The elimination program provides that these criteria shall be used as a scientific basis for faculty judgment after which each teacher in embryo shall pass through a probationary period of practice teaching. At the end of this time she shall be qualified or eliminated according to the judgment of the faculty. Theoretically such a program seems a coup d'etat in teacher training, but how well it will work in practice remains as yet a scholar's idol.

LEHMAN, HARVEY C. "The Oral versus the Mimeographed True-False," *School and Society*, 30:470-72, October 5, 1929.

The relative merits of presenting true-false tests orally and in mimeographed form were compared by administering the same test of eighty-five items by both methods to nine different classes in educational psychology. A careful technique involving clear enunciation, uniform directions, and timed statement of the questions was followed in giving the tests orally. Correlations were computed between the odd scores of the mimeographed results and the even scores of the oral results, and vice versa. These correlations were so nearly identical as to indicate no significant difference whatever in the results of the two methods. Practically the same number of errors were made under each method. The author admits that neither method is superior for all students and feels that his experiment shows the oral method of presenting true-false tests to be in no way inferior to the mimeographed method.

LINCOLN, EDWARD A. "Ability Grouping in Theory and Practice," *School and Society*, 30:447-53, October 5, 1929.

For those interested in ability grouping in the public schools this article affords a well-organized resume of some outstanding cases of ability grouping. Mr. Lincoln not only cites the results of six successful experiments but points out at least one unsuccessful experiment with possible reasons for its failure. Data are also given on an interesting study in the evaluation of ability grouping through the consensus of teachers working under this plan. There is a discussion of the principles and methods of grouping, with an explanation of the methods used in two specific cases. The most glaring difficulties to be encountered and the pitfalls to be avoided are enumerated. The final remarks on the danger of neglecting the spirit of the organization once the machinery is set up are well put and worth considering.

JONES, VERNON. "Disagreement among Teachers as to Right and Wrong," *Teachers College Record*, 31:24-36, October, 1929.

Eighty-two experienced teachers and thirty-six upper classmen taking courses in education volunteered to take a test which set up certain situations involving moral choices. The answers "right," "excusable," or "wrong," were checked by these people, first on the basis of their own "ideals," and second as to what in their judgment was the general opinion in society.

The answers differed greatly. In general, however, the standards set by the individual

"ideals" were higher than those indicated as generally "accepted standards."

Although the author acknowledges certain weaknesses of the test, in his opinion, the findings do show that "character education should not be established in the schools on the assumption that teachers always know the difference between right and wrong."

BISHOP, MERRILL. "Magazines for Junior Schools," *English Journal*, 18:659-63, October, 1929.

Librarians and supervisors who select the magazines for school libraries will receive help from this study which was made in junior schools at San Antonio. A list of fifty-one magazines was submitted to 670 pupils to determine their first five choices. The results of these selections made by pupils in the sixth, seventh, and eighth grades were tabulated. It was decided to take the first ten magazines chosen by the pupils and a magazine from each of the fields taught in the junior schools to form a list from which librarians may make final selections.

STRANG, RUTH. "The Relation of the Dean of Women to Research," *Teachers College Record*, 31:44-49, October, 1929.

The possibilities of research by deans of women as presented here include: survey of duties and relationships; developmental studies over a period of years; experimental studies; studies of trends; and co-operative studies. While research is not necessarily one of the dean's functions, many values may be obtained through such efforts of the dean of women.

WILSON, GUY M., and PARSONS, A. REBECCA. "Critical Examination of a Standardized Spelling Test," *Educational Administration and Supervision*, 15:494-98, October, 1929.

The authors seriously question the "standardization" of a test used in 1928-29 in the "nation-wide" testing program of the Public School Publishing Company. They question the sentence-dictation method used, the grade placement of a considerable number of the words in the test, and the inclusion of some of the words.

SYMONDS, PERCIVAL M., and LEE, BALDWIN. "Studies in the Learning of English Expression," *Teachers College Record*, 31:50-58, October, 1929.

The author of this report attempted to study the growth of vocabulary usage in written composition for the purpose of determining the changes that occur in the use of words as writing becomes more and more mature. The words in 32 compositions were tabulated according to their placement in Thorndike's *Teacher's Word Book*.

The words for each composition were tabulated according to frequency as measured by Thorndike's scheme, and the sheets were sorted into groups according to their levels on the Hillegas scale. The frequencies for each of these groups were then cumulated, and the frequency with which words occurred in the Thorndike scale.

The authors present the findings in the five charts and set up a table for emphasizing vocabulary development. This table presents for each grade the levels in the Thorndike scale which should be emphasized and the words which should be taught supplementary to the basic ones in each grade.

IN PAPER COVERS

PERRIN, ETHEL, AND TURNER, GRACE. *Play Day—The Spirit of Sport*. New York: American Child Health Association, 1929. 77 pp.

Half of the book consists of a general essay-type discussion of the good sportsmanship and sense of fair play which a play day for girls fosters. The other half is devoted to a report of eight recent successful play days held in colleges, high schools, and rural schools. There is also a discussion of industrial and community play days.

A list of sports and games for each season of the year is given, along with some general rules for competitions and regulations for insuring the amateur nature of the contests. These specific instructions form the most valuable portion of the book.

PRESSEY, LUELLA C. *Some College Students and Their Problems*. Columbus, Ohio: Ohio State University Press, 1929. vi + 97 pp.

Case studies illustrative of some of the more common difficulties met by students during the critical college period of later adolescence are presented in this little book which is intended for class use. Problems of study, health, family adjustment, social adaptation, morals, and the choice of a vocation are included with suggested solutions. Each chapter consists of several case studies, a general discussion of the principles involved in the causation and treatment of such situations, a list of searching personal questions for the reader to ponder over, and a group of pertinent references to which he may turn for more detailed material. The book contains material for the teacher, and also the administrative officer, in the form of suggestions of "some constructive measures which an institution may take to handle such problems."

The book should prove of value because it is the outcome of successful experience in remedial

work over a period of years, and for this reason presents workable suggestions throughout. It is clear, forceful, convincing, and understanding. Best of all, it is stimulating to the student.

EMILY LEATHERMAN STOGDILL

HUGHES, W. HARDIN. *The Instructional Staff.* Pasadena, California: Bureau of Administrative Research, 1929. 44 pp. (Administrative Research Series, Monograph No. 2)

The salaries, training, and teaching loads of the instructional staff of Pasadena public schools are analyzed here. Salaries of those in similar positions in other schools in California and in other parts of the United States are compared with those in Pasadena. The purchasing power of the incomes of teachers, wage earners, and others gainfully occupied are charted and compared. For the years 1914 to 1928, inclusive, these comparisons show a gain of twenty-one percent on the part of the Pasadena teachers, as compared with that of forty-two percent for other wage earners and fifty-seven percent for all persons employed in the United States.

Charts show the training and teaching loads of members of the instructional staff. A salary schedule of the Pasadena schools is included. Fifteen charts and fourteen tables present comparative data.

FOOTE, J. WESLEY. *Directed Civics Study—A Student's Workbook in Civics.* New York: World Book Company. 1928. vi + 154 pp.

The workbook consists of questions for the student to answer and suggestions for projects to work out. The work is based upon constant reference to twenty-seven standard civics textbooks, with supplementary reference to ten others for the more advanced student.

The work aims to be as practical as possible and is constantly related to the home and community life of the student. Sections are devoted to community life, public health, public safety, education, recreation, economic problems, and the local, state, and national governments. Work for committees appointed by the teacher is also provided, such work being intended to provide basis for socialized class recitations.

DOUGHERTY, MARY LORETTE. *The Educational Clinic of the Department of Education.* Baltimore: Johns Hopkins Press, 1929. vii + 78 pp. (Johns Hopkins University Studies in Education, No. 11)

These reports on the diagnosis and remedial treatment of eighteen school children will be interesting and profitable reading for workers in this field. Like others of a similar nature, the studies merit two unfavorable criticisms. In every one of the eighteen cases, improvement in the behavior of the child was noted. It would appear that educational clinics might sometimes have a case, the treatment of which was unsuccessful, or even harmful. The literature in this field would be greatly enriched by a careful analysis of such failures.

Further, the studies can hardly be labeled scientific when there is little evidence that a careful effort was made to determine whether extraneous experiences might have effected the improvement. The fact that improvement in the child is noted after certain remedial procedures does not necessarily mean that these procedures were the cause.

EDGAR DALE

CHICAGO PRINCIPALS' CLUB. *Fourth Yearbook: Educational Measurements.* Chicago: Chicago Principals' Club, June, 1929. 170 pp.

This Yearbook which is devoted to educational measurements contains an elementary chapter on statistical methods and a short treatment of units of measure. Considerable space is devoted to the use and evaluation of tests. Especially valuable is a list of two hundred arithmetic problems standardized for the fifth grade.

The Yearbook shows the marks of having been produced by busy school people whose chief duties lie in the administration of their school work. As such it is a creditable contribution. Best of all the appearance of the book proves that the schools of Chicago contain leaders with true professional spirit.

W. J. OSBURN

WICKENDEN, WILLIAM E. *A Comparative Study of Engineering Education in the United States and Europe.* New York: The Society for the Promotion of Engineering Education, 1929. 275 pp. (Bulletin of the Investigation of Engineering Education No. 6)

This bulletin is one of a series of studies concerned with "the objects of engineering education and the fitness of the present-day curriculum." The author has made a study of the historical development of engineering education in France, Great Britain, Switzerland, and the German States, as well as of its present status. He then compares this development and status with the development and status of technical education in the United States.

GIBBONS, ALICE N. *Tests in the Social Studies.* Philadelphia: McKinley Publishing Company, 1929. 144 pp. (Publications of the National Council for the Social Studies No. 3)

This work is an account of a four-year program of testing in the social studies in East High School, Rochester, New York. While much of the narrative is commonplace in that it is concerned with the struggle between a progressive department head and a group of

obdurate "stand-patters" in which the question of the use of the so-called new-type examination is at stake, some interesting and novel results are disclosed. The early discovery that a concise formulation of objectives is prerequisite to the building of valid measuring instruments is one of the difficulties which confront the director of a testing program. Another by-product is the conclusion that the teaching of technical (social studies) reading is a necessary element in the work of a teacher in this department. In evaluating the various forms of the new-type test the recall, multiple-response, and recognition forms receive the greatest favor, with a limited use suggested for the true-false form, and a recommendation to abandon entirely the complex "completion" type of test. Three appendices contain forms of tests used.

F. L. SIMMONS

BOOKS TO READ

CRISPIN, FREDERICK S. *Dictionary of Technical Terms.* Milwaukee: Bruce Publishing Company, 1929. 287 pp.

Mr. Crispin has attempted to compile an abbreviated dictionary of some of the common terms in various technical fields. Had he tried to include all the common terms which ordinarily need definition, he still would have been able to profit by using a good dictionary. In the field of chemical terms, for instance, some of the omissions and misconceptions are inexcusable. The attempt should have been either more closely confined or more carefully executed.

H. W. BAKER

BROOKS, FOWLER D. *The Psychology of Adolescence.* Boston: Houghton Mifflin Company, 1929. xxiii + 652 pp.

Eighteen readable and thoroughly practical chapters are contained in this book. The treatment is genetic, thus avoiding the fallacy of a relatively sudden onset of the phenomena, physical and mental, accompanying the pubertal period. "We have insisted," says the author, "upon development as a continuous process, finding no evidence for believing either that the adolescent youth breaks with his past or that the 'teens are characterized by the birth of a new self."

The first chapter is devoted to historical matter on primitive interpretations and early practices; a brief discussion of organic adaptations; and tables showing the distribution of adolescent youth in schools, in gainful occupations, and in commitments due to delinquency. The important facts of physical and mental growth from early youth through the period of adolescence; physical phenomena; and psychological and educational material provide subjects for discussion. The closing chapters are worthy of special mention. The author's discussion of "The Hygiene of Adolescence," and "The Guidance and Control of Adolescent Behavior," should be carefully read, not only by parents and teachers but by all adults who are in any way concerned, officially or socially, with the welfare of youth.

Each chapter has a list of questions and a list of collateral readings. The style is lucid and easily carries the attention of the reader. The book is singularly free from useless verbiage and technical terminology, without violation of scientific accuracy. It is strongly recommended as a text for colleges and normal schools, also as a reading-circle book for parent-teacher associations and perhaps as an occasional substitute for bridge.

G. F. ARPS

RAINEY, HOMER P. *Public School Finance.* New York: Century Company, 1929. xix + 385 pp.

Mr. Rainey has divided this book into two parts, "The Cost of Public Education" which comprises more than two-thirds of the volume, and "The Financial Problem of the State." The introductory chapter shows the mounting cost of our public schools during the past fifty years and gives several incidents concerning school systems which are faced with financial crises. The great need today, as the author sees it, is the proper control of school finances. A method for classifying and distributing school costs is presented, and the results of its application in connection with ten large high schools are shown.

The chapter on "The Evils of the District System," shows the educational inequalities that result when the small local district supports and controls the schools. Much of the material is drawn from actual studies made by the author.

J. J. LOWDEN

COUNTS, GEORGE S. *Secondary Education and Industrialism.* Cambridge, Massachusetts: Harvard University Press, 1929. 70 pp.

To honor the memory of Alexander Inglis, his friends and colleagues have given to the Graduate School of Education at Harvard University, a fund for the maintenance of a lectureship in secondary education. Here we have one of the lectures of this series. Dr. Counts shows that the growth of industrialism in our country is not only largely instrumental in causing revolutionary changes in secondary education, but it is also a challenge for further progressive trends in our schools. Secondary education has had an unprecedented development in our country, and yet its forward movement has not been guided

by any clearly recognized social theory. There is a vital need for an educational and social philosophy which accepts the challenge of the fundamental social reconstruction of society. The schools of the future must grapple more courageously with the real problems of society.

R. H. ELIASSEN

CLEVELAND, ELIZABETH. *If Parents Only Knew.* New York: Norton Company, 1929. 152 pp.

The "seven cardinal principles" announced by the National Education Association as the aims of secondary-school training are the basis of this study. With regard to each of these the author tries to answer the questions, What is the school trying to do for the child? and How can the home help? Each chapter is divided into three sections: a discussion of the subject-matter, a section entitled "The Co-operative Parents' Catechism," and a third section which contains "Suggested Parent-Teacher Activities." The last two sections of each chapter should prove especially helpful to parents. There are questions which should guide the parent to an intelligent and rational view of the child's development. Activities for parent-teacher associations are designed to bring about a closer understanding of the aims of home and school.

AMALIE K. NELSON

GARRISON, S. C., AND GARRISON, K. C. *The Psychology of Elementary School Subjects.* Richmond, Virginia: Johnson Publishing Company, 1929. xx + 569 pp.

At least three types of content and organization are expected of a book in the psychology of elementary education. Some instructors in education use such a book in connection with an advanced course in psychology and assume that the student has already had training in general educational psychology. Other instructors use the book in a beginning course in educational psychology and expect the material to be so selected and organized as to be understood by students who have had no previous training in psychology. Elementary-school teachers and supervisors on the other hand have been demanding a book which explains the psychology of good teaching method, that the principles of psychology therein presented may be used as criteria for evaluating the teaching methods commonly used in the elementary school.

The Garrison brothers, one of whom is at George Peabody College for Teachers, the other at North Carolina State College, have made a decided step toward the production of a book which could be used by students without previous psychological training and at the same time might be read by teachers in the field to great advantage. Although the language is simple, the book includes the results of a large majority of the recent studies of learning in the elementary school. Particular emphasis is placed upon methods of teaching which care for individual differences in children and upon measurements of achievement in the various school subjects. Little attempt is made to develop fundamental principles of learning in each of the common branches which teachers might use to evaluate their own customary methods. This shortcoming, however, may be due to the lack of validation of fundamental principles by the science of psychology.

Both teachers and students will find the book helpful and will recognize it as a step toward the development of a functional psychology for teachers.

R. W. TYLER

MYERS, A. F., AND BIRD, O. C. *Health and Physical Education for Elementary Schools.* Garden City, New York: Doubleday, Doran and Company, 1928. ix + 342 pp.

BROWN, MAUD A. *Teaching Health in Fargo.* New York: The Commonwealth Fund Division of Publications, 1929. xiv + 142 pp.

The essentials of a modern program of health and physical education for Grades I to VI are presented in the first of these two books on health. Tracing the recent tendency to unify health and physical education and stressing modern educational theories, the authors place emphasis upon an activity program. The major aspects of such a program as advocated by Dr. Thomas D. Wood and others are: (1) health service, or "protective measures taken by the school to conserve and improve the health of the children"; (2) health instruction, including not only formal knowledge but means for influencing habits, ideals, and attitudes of children; (3) physical training through practical physical activities.

In elaboration there are chapters dealing with such subjects as nutrition work, detecting and handling communicable diseases, first aid for children, play and playground supervision, and elementary athletics. Each subject is treated from the point of view of the classroom teacher. Two chapters, each richly supplied with illustrative materials, deal with health instruction, one for Grades I to III, the other for Grades IV, V, and VI. Practical examples suggesting activities for each grade have been furnished by the training school at Ohio University, where the authors were engaged while writing the book.

A short chapter deals in a simple way with the mental hygiene of the school child. Nothing is offered on the health of the teacher. This is not "just another book"; it should prove useful alike as a textbook for students and a handbook for teachers.

A story of actual health teaching in the schools of a mid-western city is found in the second book. It is the account of the methods of health instruction developed during a five-year child-health demonstration, in Fargo, North Dakota. After stating the problem with remarkable clearness, the author portrays the methods employed in direct instruction, including daily inspection, marking records, motivation through projects, inculcation of habits and ideals, lessons in hygiene, and use of tests. A course of study is outlined for the twelve grades. One of the best portions deals with correlations—"linking health with other subjects," especially language, reading, nature study, and even music and social sciences. This little book by the director of health education during the demonstration, is decidedly worth reading whether for inspirational guidance or practical helpfulness.

OSCAR H. WILLIAMS

LATON, ANITA DUNCAN. *The Psychology of Learning Applied to Health Education through Biology.* New York: Teachers College, Columbia University, 1929. vi + 103 pp. (Teachers College, Columbia University, Contributions to Education, No. 344)

This study was conducted under conditions which are essentially representative of typical school situations. The pupils—two parallel groups, experimental and control—were junior high-school adolescents. In the experimental procedure applied to the test, the specific objectives of the group were selected in conformity to the criteria of present and future value to the learner and to the generally accepted standards of biology. The subject-matter was chosen which contributed to these objectives, and the instructional methods followed the fundamental laws of learning. The conclusions attest the profitable application of the facts and principles of psychology to secondary-school instruction.

This study will be of value to students interested in scientific research in education, and also to teachers who are endeavoring to direct their efforts toward the achievement of human values in education rather than the mastery of subject-matter.

C. A. POLLOCK

FISHER, JAMES EARNEST. *Democracy and Mission Education in Korea.* New York: Teachers College, Columbia University, 1928. xiii + 187 pp. (Teachers College, Columbia University, Contributions to Education, No. 306)

The purpose of this study was "to examine some of the aims and activities of the complex enterprise, which is designated as 'Mission Education in Korea,' in the light of a democratic philosophy of education." A survey of education in Korea in relation to missions has been made, and on this basis suggestions made for future needs and developments. Social, industrial, political, and religious life in Korea have been considered in setting up aims and plans for mission education.

E. M. GRAHAM

New Tests

R. W. TYLER

Teachers of commercial subjects in high schools and business colleges will be interested in two new tests in this field. The first, published by the World Book Company, Yonkers-on-Hudson, is the Elwell-Fowlkes Bookkeeping Test by F. H. Elwell, professor of accounting, and J. G. Fowlkes, professor of education, both of the University of Wisconsin. Test 1 covers the usual first-semester work in bookkeeping and Test 2 the second. Two forms of each test are available. The validity of the test has been increased by using the material in three experimental editions and basing the corrections upon the criticisms of the teachers. The average reliability of one form of either test is about .85. This value will justify the use of a single form of one test for group measurement, but at least two forms will need to be administered for reliable measures of the achievement of individual pupils.

The second commercial test is the General Business Training Test published by the author, J. Raymond Smith, of the Abraham Lincoln High School, Des Moines, Iowa. Apparently the selection of items has been limited to the textbook by the same author, hence the validity of the test will need verification. No information as to the reliability was sent with the test so that teachers using it will need to determine both validity and reliability before placing confidence in its results.